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Rapid Transit - Chicago

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The Congress rapid transit in the median of the Eisenhower expressway has attracted world-wide attention. Transit operators, transit engineers, and public officials from many parts of the United States, Canada and other countries have visited Chicago to obtain firsthand knowledge of the project.

## Chicago Plans More Combined Facilities

Provisions have been made for installing rail rapid transit facilities in the right-of-way of the Kennedy and Dan Ryan expressways as well as in the right-of-way for the Southwest expressway. Initially, however, buses are to operate in the Southwest expressway.

Funds for the necessary construction to accommodate transit facilities, such as the increased length of overhead bridges that had to accompany highway construction, were provided by a $10,000,000 bond issue of the City of Chicago.

## Passenger Carrying Capacity Increased Three-Fold

By constructing rail rapid transit in the grade-separated right-of-ways of multi-lane expressways, passenger carrying capacity is increased as much as three-fold or more.

This is a terrific advantage to be derived from the combined rapid transit-automobile expressway and is achieved for comparatively little additional cost. A cost ratio of one-fifth for transit facilities to four-fifths for expressway facilities is possible under favorable circumstances.

The maximum in passenger transportation is obtained for every dollar spent. Possibilities for conserving transportation project funds are tremendous, and money thus saved can be used to build more conventional highways in less highly developed areas.

Transportation experts are even now voicing grave fears that highway project dollars will buy more traffic chaos than concrete highway capacity unless there is much more realistic planning and construction for the total transportation needs of large urban centers.

## Chicago Transit Aided by $115 Million of Public Funds

To improve Chicago's transit facilities, a total of $115,400,000 in public funds has been provided to date. Construction of the city's first two subways, State street and Milwaukee-Dearborn-Congress, cost $75,000,000. The City of Chicago provided the major part of this amount from the City Traction Fund built up by franchise tax payments received over a period of years from the privately owned transit companies which later were acquired by Chicago Transit Authority. The Federal government's contribution to the construction of these two subways, obtained from the former Public Works Administration, totaled $25,967,000.

Construction of the Congress route and its connection with the Dearborn subway was financed by the City of Chicago. Approximately $2,000,000 was derived from the sale of revenue bonds being serviced by subway rental paid by Chicago Transit Authority. An additional $25,000,000 came from a general obligation bond issue. Chicago Transit Authority, however, reimburses the city for the cost of the fixed transportation equipment, estimated at $11,745,000.

## Use of Federal Matching Highway Funds Sets Important Precedent

The alignment established for the Congress (now Eisenhower) expressway required removal of substantial sections of the Garfield Park rapid transit route structure to make way for highway construction. It also required use of underlying right-of-way for expressway purposes, and the relocation of the entire rapid transit route between the Loop and the west terminal in Forest Park.

Federal highway matching funds, made available to the State of Illinois, and in turn to the City of Chicago and the County of Cook, contributed importantly to financing the cost of the right-of-way, and the increased length of the local street overpass bridges.

The City of Chicago, using highway funds and its own bond funds, constructed the portion of the subway and a portion of the expressway between the west bank of the Chicago river and Laramie avenue, as well as the new terminal facilities in Forest Park to replace the former yard facilities at Laramie avenue.

The County of Cook and the State of Illinois, using highway funds, completed the project between Laramie avenue and the Forest Park terminal since highway construction in this section, which was their joint responsibility, required relocation of the Garfield Park route tracks and structure.

## FACTS AND FIGURES

## Length and Description of the Congress Route

From its connection with the Milwaukee-Dearborn subway at the west bank of the Chicago river, the route extends westward to Desplaines avenue, Forest Park, a distance of approximately nine miles.

For the easternmost three-quarters of a mile, the route is in twin underground tubes. From Halsted street to just west of Laramie avenue, approximately six miles, it is in the median strip of the depressed right-of-way of the Eisenhower expressway.

Just west of Laramie avenue, between Lockwood and Lotus avenues, the two tracks run through curved twin tubes that cross under the eastbound roadway of the expressway to the right-of-way in the depressed section between the tracks of the Baltimore and Ohio Chicago Terminal railroad and the eastbound roadway of the expressway, which extends to the west terminal at Desplaines avenue.

## Initial Service in Temporary Right-of-Way

Service was started in the median of the expressway to Lotus avenue on June 22, 1958, with operation in a temporary right-of-way between Lotus avenue and the west terminal. The temporary right-of-way was located in what is now the westbound roadway of the expressway.

On March 20, 1960, this right-of-way was abandoned and transit operations were switched to the permanent right-of-way.

## Three Rapid Transit Routes Combined

For operation of the route, three rapid transit routes, Garfield Park, Douglas, and Logan Square, were combined into the West-Northwest route, providing through service for the first time between the west and northwest sections of Chicago by way of the Central Business District.

The Milwaukee-Congress leg of the route is 15.4 miles long; the Milwaukee Douglas leg is 13.9 miles long.

The outer terminals of the three merged routes, however, remained at the same locations--Desplaines avenue, Forest Park, for the Congress route; 54th avenue, Cicero, for the Douglas route, and Logan Square for the Milwaukee route.

Milwaukee-Congress trains operate the entire length of the Congress right-of-way. Milwaukee-Douglas trains enter and leave the right-of-way over a ramp connection near Loomis street.

During construction of the expressway east of Laramie avenue, Garfield Park trains operated at street grade between Racine avenue and California avenue, where the elevated structure was removed. Milwaukee-Douglas trains operated to and from the Loop over a connection with the Lake elevated structure near Paulina and Lake streets.

## Right-of-Way Available for Future Expansion

The Congress route is a two-track facility, but median strip width is available for expansion if or when passenger traffic volume warrants. Between Halsted street and Kenton avenue (about 4-1/4 miles) two more tracks may be added, and between Kenton avenue and the terminal in Forest Park (about 3-3/4 miles) a third track may be added. Between Morgan street and Racine avenue there is now a third track for switching operations.

## Fifteen Stations Serve the Route

There are 15 stations along the route spaced an average of about .6 of a mile apart. Eleven of the stations are in Chicago, two in Oak Park, and two in Forest Park, as follows:

### Chicago Stations

| | Time to Loop |
|---|---|
| Clinton | 1 minute |
| *U of I - Halsted | 3 minutes |
| *Racine | 4 minutes |
| *Medical Center (Ogden-Paulina-Damen) | 5 minutes |
| Western | 7 minutes |
| California | 9 minutes |
| *Kedzie | 10 minutes |
| *Pulaski | 12 minutes |
| Kostner | 13 minutes |
| *Cicero | 14 minutes |
| Central | 16 minutes |

## Suburban Stations

| | |
|---|---|
| *Austin Boulevard, Oak Park | 17 minutes |
| *Oak Park Avenue, Oak Park | 20 minutes |
| *Harlem Avenue, Forest Park | 21 minutes |
| Desplaines Avenue, Forest Park | 23 minutes |

* Denotes station with auxiliary entrance-exit facilities.

At seven of the stations, the entrance-exit facilities of the main station are supplemented by auxiliary entrance-exit facilities at an adjacent highway overpass bridge to increase accessibility for patrons and to enhance the ease of transferring to and from local buses--Morgan and Peoria streets for U of I - Halsted station; Loomis street for Racine station; Homan avenue for Kedzie station; Keeler avenue for Pulaski station; Lavergne avenue for Cicero station; Lombard avenue for Austin station; East avenue for Oak Park station, and Circle avenue for Harlem station.

The auxiliary stations serve as exits at all times, and as entrances during morning and/or afternoon rush hours when agents are on duty, and during nights, Sundays and holidays when fares are collected on trains.

At Medical Center station, there are two auxiliary entrance-exit structures, one at Paulina street and the other at Damen avenue to supplement the facilities at Ogden avenue.

The Congress and Douglas routes are the major transit arteries serving the University of Illinois, Chicago Circle campus.

The U of I - Halsted station complex consists of a main entrance-exit at Halsted and auxiliary entrance-exit facilities at Morgan and Peoria streets. The Peoria station building is equipped with a stairway and an escalator connecting the station building with the train platform.

Clinton station is in the subway tube section just west of the Chicago river. Escalators and a stairway connect the mezzanine station with entrance-exit facilities at street level.

At Central avenue, where the rapid transit is elevated, the main station controls are located at platform level with stairway connections to the street.

At the Desplaines terminal, the station facilities are at grade level, and stairways lead to the platform and down to the depressed street-level bus interchange.

## Stations and Platforms Designed for Attractiveness and Utility

The station buildings are each about 42 feet long and 21 feet wide. Exterior walls are an attractive combination of colored glazed brick and structural glass blocks. Station entrances are an attractive combination of aluminum panels, polished plate glass windows, and aluminum-framed plate glass doors.

Completely enclosed and brilliantly-illuminated ramps connect each station building located at street level with an island-type train platform. The roofs of the ramps are of aluminum, supported by aluminum columns, and the sidewalls are corrugated structrual glass with aluminum louvers for ventilation.

Station interiors are finished with glazed tile for ease of cleaning and are equipped with station control facilities--agents' booths, coin or token transfer-issuing turnstiles, and modern lighting that harmonizes with the interior decor.

Three pastel colors, yellow, blue and gray, are used alternately at the stations to decorate both the exterior and interior of the buildings.

Each station platform in the expressway right-of-way is the island-type, 600 feet long and completely canopied. Supported by structural aluminum columns, the canopies extend beyond the platform edge and over the roofs of cars. There are eight windbreaks, each 15 feet long and 6 feet high, on each platform with 5-foot wide panels set at right angles at each end of the windbreaks to provide additional shelter in inclement weather.

### Station Signs and Entrance-Exit Facilities Automatically-Controlled

Each street-level main station entrance is identified by a large illuminated sign. In each station building, at auxiliary entrance-exit facilities, and on each platform, there are illuminated passenger information signs with messages that can be changed automatically from the agent's booth to conform to varying operating conditions. Electro-gate turnstiles at auxiliary entrances and exits are also controlled automatically from the agent's booth at the main entrance.

### Automatic Block Signal and Brake Trip System

Similar to the State street and Milwaukee-Dearborn subways, the Congress route is equipped with an automatic block signal and brake trip system. Only tube sections of the route, including the underpass near Lotus avenue were equipped with protective signal devices when service was inaugurated on June 22, 1958. In October, 1958, the block signals and train controls were placed in operation on the tracks between Halsted street and Laramie avenue.

Block signals and automatic train controls were placed in operation between Lotus avenue and the west terminal on July 12, 1961. With the completion of this final stretch, the Milwaukee-Congress line became the first on the rapid transit system to be equipped with a complete block signal and automatic brake trip system.

### Forest Park Terminal Combines Rapid Transit-Bus Transfer, Auto Parking, Yard and Shop Facilities

Terminal facilities at Desplaines avenue, Forest Park, are designed to achieve the maximum in passenger convenience and operating efficiency.

The passenger facilities include a new station platform and convenient, under-shelter facilities for off-the-street interchange of passengers between trains and buses that serve communities in the area. Bus routes serving the terminal are CTA's Westchester route and two routes of the West Suburban Transit Lines.

A "kiss-'n'-ride" pick-up and stopping area is located near the station for patrons who are driven between home and the station.

### Multi-Story Garage and Shopping Center

The terminal is designed so that a combined multi-story garage and shopping center may be constructed in the future if funds to finance the project can be obtained. Preliminary planning for this project contemplates a garage to accommodate 2,000 automobiles. Retail shops would be located at first-floor level in the garage plaza. There would be direct, under-shelter connections with the train platforms.

### Yard and Repair Shop Facilities

Yard and repair shop facilities are provided at the Desplaines terminal. All of the terminal facilities are located on land acquired by Cook County, and purchased from the county by CTA, but construction of the yard and repair shop was financed by the City of Chicago as part of the project. The new inspection shop was completed in July, 1962, at a cost of $970,000.

The shop is equipped for production line inspection and servicing of all rapid transit cars assigned to the West-Northwest route. The building is large enough to accommodate 13 cars at one time and includes a hoist that can raise a two-car train five feet off the tracks for removal or replacement of trucks. Overhead cranes and monorails over working areas are provided for handling heavy parts. The facility also includes an automatic car washer through which whole trains can run and emerge sparkling clean. The new shop is one of the most modern of its kind in the nation.

## PLAN OF OPERATION

### Train Signs

Trains operating between Logan Square and Desplaines avenue, Forest Park (Congress), are "A" trains, and display red, white and black signs reading as follows: A--Congress-Milwaukee.

Trains operating between Logan Square and 54th avenue, Cicero (Douglas), are "B" trains, and display green, white and black signs reading as follows: B--Milwaukee-Douglas.

### Running Time

For "A" Trains, the weekday rush period running time from Desplaines avenue, Forest Park, to LaSalle station in the downtown area is 23 minutes.

For "B" trains, the weekday rush period running time from 54th avenue, Cicero, to LaSalle station is 21 to 25 minutes.

For both "A" and "B" trains, the weekday rush period running time between Logan Square and Lake transfer (Clark) station is 11 to 13 minutes.

### Convenient Transfer Connections

Direct platform-to-platform out-of-the-weather passageways, one at Washington and another at Jackson provide free transfer connections between the West-Northwest and the North-South routes.

A free transfer from the West-Northwest route to the Lake, Ravenswood and Evanston elevated routes may be obtained at Lake transfer station (Clark street exit) for presentation at Clark and Lake "L" station. This is an "up-direction" transfer.

A free transfer from the Lake, Ravenswood and Evanston routes to the West-Northwest route may be obtained at the State-Dearborn and Van Buren "L" station for presentation when entering the Dearborn subway between Jackson and Van Buren streets. This is a "down-direction" transfer.

### Hazardous Grade Crossings Eliminated

A total of 27 hazardous rapid transit crossings at street grade--4 in Forest Park, 17 in Oak Park, and 6 in Chicago--have been permanently eliminated by locating the rapid transit in the right-of-way of the expressway.

In addition, a railroad crossing, which had formerly caused many delays in service, was eliminated when the bridge near Desplaines avenue, Forest Park, was completed to carry the tracks of the Baltimore and Ohio Chicago Terminal railroad over CTA tracks and the expressway.

## HISTORICAL AND FINANCIAL INFORMATION

### Background of the Eisenhower Expressway and the Congress Rapid Transit Projects

Construction of a high-capacity roadway from the Loop westward along the line of Congress street was first proposed in 1909 when two noted city planners, Daniel Burnham and Edward Bennett, presented the suggestion in a "Plan of Chicago."

However, their "Plan of Chicago" made no mention of integrating the Garfield Park rapid transit route with the proposed highway, although rapid transit service in the area had been started in 1895, and had been extended to the Desplaines avenue, Forest Park, terminal by 1905.

In the years immediately following its presentation, the Burnham-Bennett plan was revised many times, but not until 1939 was an official proposal made for coordinating the proposed highway and rapid transit facilities. This proposal was part of a report, "A Comprehensive Plan for the Extension of the Subway System of the City of Chicago," which was prepared to comply with the Subway Grant Agreement between the Federal government and the City of Chicago for construction of the State street and the Milwaukee-Dearborn-Congress subways.

## Project Ordinances Enacted

On October 31, 1940, the West (Congress) route of the Comprehensive Superhighway System was adopted by the City Council, and a representative of the city was directed to negotiate with Cook County and the State of Illinois for a joint program for financing and constructing the expressway, including facilities for rapid transit in the expressway right-of-way. On June 13, 1945, the City Council designated the West Side subway (Congress) an official city project and construction was authorized by ordinance enacted December 30, 1946.

## Series of Joint Agreements Negotiated

Subsequently a series of complicated agreements apportioned and fixed responsibility for financing and constructing the expressway, including rapid transit facilities within the right-of-way. First of the series was the "Two Way" agreement between the City of Chicago and Chicago Transit Authority, dated May 11, 1951; next, the "Four Way" agreement among the City of Chicago, Chicago Transit Authority, Cook County and the State of Illinois, dated May 11, 1951, and May 14, 1954; and finally, the "Three Way" agreement amoung the State of Illinois, Cook County, and Chicago Transit Authority, dated November 24, 1953.

## City Assumed Responsibility for Rapid Transit Route

Under these agreements, the City of Chicago not only assumed responsibility for financing and constructing a share of the expressway within the city, but it also assumed responsibility for financing and constructing the stations, stairways, subway tubes and fixed transportation equipment of the rapid transit facilities between the Chicago river and Laramie avenue.

## Chicago Transit Authority Contributions

As its contribution to the Eisenhower expressway-Congress rapid transit project, Chicago Transit Authority gave the City of Chicago and Cook County a permanent and perpetual easement to use for highway purposes the right-of-way underlying the rapid transit elevated structure between Desplaines street, Chicago, and Sacramento boulevard. CTA also assumed responsibility for removing the elevated structure in this stretch at its own expense.

In addition, Chicago Transit Authority spent $1,000,000 to purchase from Chicago, Aurora and Elgin railway the fixed transportation equipment between Laramie avenue and Desplaines avenue, Forest Park, which it had been renting from the electric railway company for its Garfield Park operations.

Cook County in turn bought from the Chicago, Aurora and Elgin railway the right-of-way underlying the fixed transportation equipment and together with the State of Illinois assumed the obligation of relocating CTA's rapid transit facilities, first in a temporary right-of-way, and then finally in the permanent right-of-way between Laramie avenue and Desplaines avenue, Forest Park.

## Financing

The estimated $106,000,000 cost of constructing the Eisenhower expressway within the city was shared equally by the City of Chicago, Cook County and the State of Illinois, whose financial contributions were supplemented by federal matching highway funds. The contributions of the City of Chicago and Cook County included not only funds derived from their share of the state motor fuel tax, but also funds obtained from the sale of general obligation bond issues.

West of the city limits, the cost of constructing the expressway, estimated at $66,000,000, including provision for transit facilities, was financed jointly by Cook County and the State of Illinois with their contributions supplemented by federal matching highway funds.

Construction of the rapid transit facilities between the Chicago river and Laramie avenue, was financed by motor fuel tax funds and by City of Chicago subway bond funds. Highway funds were used to provide right-of-way, added length of local street overpass bridges, construction of the short embankment section near Central avenue, and ballast for the rapid transit tracks.

Funds from City of Chicago bond issues totaling $27,000,000 were used for construction of the stations, stairways, escalator at Clinton station, passageways, subway and portal structures, and fixed transportation equipment. Chicago Transit Authority is reimbursing the city on a monthly-payment basis for its expenditures for fixed transportation equipment, which includes traction power and electrical distribution systems, tracks, signals and interlocking equipment.

In the section between Laramie avenue, Chicago, and Desplaines avenue, Forest Park, where virtually all of the former rapid transit right-of-way is occupied by the expressway, construction of the rapid transit was financed with highway funds. The cost, including temporary relocation of the transit facilities, was approximately $7,100,000.

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